



New Research on the Economics of Digital Services Released by Penn's Center for Technology, Innovation and Competition (CTIC) and The Warren Center for Network & Data Sciences

Research delves into the role data play in digital platforms' business strategies and their antitrust implications

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Philadelphia, October 11, 2021—University of Pennsylvania's [Center for Technology, Innovation and Competition \(CTIC\)](#) and [The Warren Center for Network & Data Sciences](#) have released the findings of nine independent research projects that focus on current market dynamics for online services and the business strategies and models that digital platforms are pursuing through access to user data. The initiative was funded by a major grant from Knight Foundation.

“This new research will result in a stronger foundation for antitrust enforcement and regulatory intervention in today’s evolving digital markets,” said co-project leader Christopher Yoo, the John H. Chestnut Professor of Law, Communication, and Computer & Information Science at Penn Law and CTIC’s founding director.

According to co-project leader Rakesh Vohra, the George A. Weiss and Lydia Bravo Weiss University Professor of Economics and Electrical and Systems Engineering and The Warren Center’s founding director, the project was an interdisciplinary effort that leveraged Penn Law, Penn Engineering, and other Penn institutions, and brought together scholars from additional U.S. and international institutions. “Prof. Yoo and I, and our respective centers, are grateful to the Knight Foundation for allowing us to launch this pathbreaking project.”

The research findings and policy implications were presented at the *Inaugural Research Symposium on the Economics of Digital Services* held virtually on September 10-11, 2021. Authors and former Federal Trade Commission and Department of Justice Antitrust Division officials participated in the program, which was hosted by Profs. Yoo and Vohra. The symposium playback is available [here](#).

The nine research projects with scholars are below. For full papers, go to the *Economics of Digital Services* [website](#). For corresponding blog articles, visit the initiative’s [blog](#).

- Yannis Bakos and Hanna Halaburda (both of New York University): ***Blockchains, Smart Contracts and Connected Sensors: Substitutes or Complements?***
- Joan Calzada (University of Barcelona), Nestor Duch-Brown (European Joint Research Center), and Ricard Gil (Queen’s University): ***Do Search Engines Increase Concentration in Media Markets?***
- Juan Camilo Castillo (University of Pennsylvania), and Amit Gandhi (The Wharton School, University of Pennsylvania): ***Competition in Cloud Computing***
- Cristobal Cheyre (Cornell University), Li Jiang (The George Washington University), Alisa Frik (University of California, Berkeley), Florian Schaub (University of Michigan), and Alessandro Acquisti (Carnegie Mellon University): ***The Effect of Ad-Blocking and Anti-Tracking on Consumer Behavior***
- Avinash Collis (The University of Texas at Austin), Alex Moehring (Massachusetts Institute of Technology), Ananya Sen (Carnegie Mellon University), and Alessandro Acquisti (Carnegie Mellon University): ***Quantifying the User Value of Social Media***
- Hanming Fang (University of Pennsylvania) and Soo Jin Kim (ShanghaiTech University): ***Data Neutrality and Market Competition***
- Jose E. Galdon-Sanchez (UPNA) and Ricard Gil (Queen’s University): ***Big Data Adoption and Employment in Small and Medium Enterprises***
- Jeremy Greenwood (University of Pennsylvania), Yueyuan Ma (University of Pennsylvania), and Mehmet Yörükoğlu (Koç University): ***‘You Will’: A Macroeconomic Analysis of Digital Advertising***
- Jin-Hyuk Kim (University of Colorado Boulder), Yidan Sun (Illinois Institute of Technology), and Liad Wagman (Illinois Institute of Technology), ***The Value of Technology Releases in the Apple iOS App Ecosystem***

Economics of Digital Services is a three-year initiative. CTIC and The Warren Center will soon announce next year’s grant recipients and research areas.

About the *Economics of Digital Services Initiative (EODS)*

EODS is an initiative of the University of Pennsylvania’s Center for Technology, Innovation and Competition (CTIC) and The Warren Center for Network & Data Sciences. Its aim is to generate independent research on the economics of digital services and the role of data and algorithms in the business strategies of digital platforms. The initiative was funded by a major grant from Knight Foundation to support scholarly inquiry and novel approaches in the evolving digital age.

www.law.upenn.edu/digitaleconomics/

About the Center for Technology, Innovation and Competition (CTIC)

CTIC is an interdisciplinary academic center at the University of Pennsylvania Carey Law School that bridges law and technology for academia and students. Focusing on intellectual property, antitrust, Internet law, and privacy law and policy. CTIC delivers foundational research that shapes the way legislators, regulatory authorities, and scholars develop policy and regulatory frameworks. CTIC also produces programming that explores the full range of scholarly perspectives among worldwide academics and industry experts. www.pennCTIC.org

About The Warren Center for Network & Data Sciences

The University of Pennsylvania's Warren Center fosters research and innovation in interconnected social, economic, and technological systems. Collaborating with Penn affiliates, it focuses on the role of data and algorithms to understand networked systems and how they can improve lives. The center also produces events that connect researchers, students, and entrepreneurs across the spectrum of network science. www.warrencenter.upenn.edu

About Knight Foundation

Knight Foundation is a national foundation with strong local roots. The foundation invests in journalism, in the arts, and in the success of cities where brothers John S. and James L. Knight once published newspapers. Knight's goal is to foster informed and engaged communities, which it believes are essential for a healthy democracy. www.knightfoundation.org

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